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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,929	09/22/2003	Jong Mu Choi		1622

7590

07/01/2005

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EXAMINER

LAM, DUNG LE

ART UNIT

PAPER NUMBER

2687

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/667,929	Applicant(s) CHOI ET AL.	
	Examiner Dung Lam	Art Unit 2687	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/22/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)–(d), which papers have been placed of record in the file.

Drawings

2. The drawing in Figure 5 is objected to because there is a misspelled word “reducint” in Figure 5. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

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examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. Claim 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant fails to point out which 802.11 version is being used. Further, the examiner notes that since standards such as this are dynamic in nature, the metes and bounds of the claims are uncertain.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **1 and 2** are rejected under 35 U.S.C. 103(a) as being unpatentable over **van Bokhorst et al.** (US Patent No. 6192230) in view of **Hagen** (Power Savings Mechanisms in Emerging Standards for Wireless LANS: The Mac Level Perspective).

6. Regarding **claim 1**, Hagen teaches a method for reducing consumption power of terminals communicating with each other using a beacon interval divided into an Announcement

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Traffic Indication Message (ATIM) window period and a doze state period according to IEEE standard 802.11 on Distributed Coordinated Function (DCF) based wireless networks (page 42, Power Savings in the IEEE Draft Standards). However, Hagen fails to expressly teach the steps of:

(a) dividing an ATIM window period into an Earlier Time Slot (ETS) section and a Later Time Slot (LTS) section which are distinguished from each other; (b) when a certain terminal has a data packet to be sent to another terminal, transmitting a beacon to each terminal during the ETS section, and when the terminal has no data packet to be sent to that other terminal, transmitting the beacon to each terminal during the LTS section; and (c) when a terminal has received the beacon during the LTS section, allowing it to immediately change its state to the doze state without waiting for the doze state period.

In an analogous art, Van Bokhorst teaches a method of receiving TIM in a power saving mode. As illustrated in Figure 7, when TIM-1 message is sent with an indication that there's data to be transmitted, all the remote stations go to doze state. However, when TIM-2 message sends out an indication that there's data for stations 1 and 2, then stations 1 and 2 remains awake during the transmitting period and immediately go to sleep upon their respective completion of transmissions (Col. 5, lines 18-49 and Col. 6 lines 20-43). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to combine the 802.11 standards as disclosed by Hagen and the dynamic changing to doze state when there's no transmitting data to have more flexibility and thus higher efficiency in power saving.

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2. Regarding **claim 2**, Hagen and Van Bokhorst teach all the limitations as claimed in claim 1. Van Bokhorst teaches implicitly that the ETS and LTS sections are maximum back-off time defined by IEEE standard 802.11. Van Bokhorst teaches that the beacon interval of the reference that uses the backoff algorithm (2nd paragraph Page 43). It is known in the art that the ATIM is part of the beacon interval. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to divide the ATIM into two sections for the awake and doze states to occur automatically to maximize the doze time.

Citation of Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Rudnick (US Publication No. 2002/0131371) discloses a method of dynamically change all MIB parameters of a wireless data network.

Chen (US Publication No. 2002/0253996) teaches a method of dynamically re-program the contention free period and the contention period.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung Lam whose telephone number is (571) 272-6497. The examiner can normally be reached on M - F 8-5pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-6497.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DL

6/27/2005


6/27/05
LESTER G. KINCAID
PRIMARY EXAMINER